

TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL

NASA/GODDARD SPACE FLIGHT CENTER

REQUEST FOR TASK PLAN / TASK ORDER

CONTRACTOR		CONTRACT NO. / TASK NO.		JOB ORDER NUMBER	APPROPRIATE
QSS Group, Inc.		NAS5- 99124	TASK NO. 58	564-860-10-40-89	99
TASK TITLE: (NTE 80 characters; include Project name)					
IRAC Flight Warm Electronics Assembly (WEA) development					
APPROVALS: (Type or print name and sign)					
ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)			DATE	ORG CODE	MAIL CODE
Jose M. Florez <i>Jose M. Florez</i>			4/24/99	564	564
BRANCH HEAD			DATE	CODE	PHONE
Robert L. Kasa <i>Robert L. Kasa</i>			4/26/99	564	301-286-8043
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)			DATE	CODE	PHONE
Fred Huegel <i>Richard A. Clark</i>			4/29/99	568	301-286-2285
FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE? (If YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)		CONTRACTING OFFICER'S QUALITY REP. <i>SLC for L. Moore per 4/29 email</i> Larry Moore		DESIGNATED FAM: Ron Kolecki/Ted Ackerson	
[] NO [X] YES					
The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.				(To be completed by Contracting Officer) C.O. Requested Quote on: Date: MAY - 3 1999	
Contractor will develop specification or statement of work under this task for a future procurement. [X] NO [] YES					
Flight hardware will be shipped to GSFC for testing prior to final delivery. [X] NO [] YES [] N/A					
Government Furnished Property/Facilities: [X] NO [] YES -- SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)					
Onsite Performance: [] NO [X] YES If yes: [X] TOTAL [] PARTIAL If partial, indicate onsite work in SOW by asterisk (*)					
Surveillance Plan Attached: [X] NO [] YES					
Highlighted Contract Clauses: (to be completed by Contracting Officer) Per Clause H.14, Task Ordering Procedure, subparagraph (f), the effective date of this task order shall be May 3, 1999.					
INCENTIVE FEE STRUCTURE (check one) (See Contract NAS5-99124, Attachment K, Incentive Fee Plan)					
	No. 1	No. 2	No. 3	<u>X</u> No. 4	No. 5
Cost	10%	50%	25%	25%	%
Schedule	15%	25%	25%	50%	%
Technical	75%	25%	50%	25%	%
(To be completed by Contracting Officer)					
The target cost of this task order is \$ <u>874,618</u> .					
The target fee of this task order is \$ <u>55,110</u> .					
The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$ <u>929,728</u> .					
The maximum fee is \$ <u>80,545</u> .					
The minimum fee is \$0.					
AUTHORIZED SIGNATURE:					
THIS TASK ASSIGNMENT IS ISSUED ACCORDING TO THE CONTRACT CLAUSE "TASK ASSIGNMENTS AND REPORTS"					
<i>Lorrie L. Eakin</i> SIGNATURE OF CONTRACTING OFFICER			11/1/99 DATE		
			Lorrie L. Eakin TYPED NAME OF CONTRACTING OFFICER		
CONTRACTOR'S ACCEPTANCE:					

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REQUEST FOR TASK PLAN / TASK ORDER**CONTRACTOR****CONTRACT NO. / TASK NO.**

QSS Group, Inc.

NAS5-

99124

TASK NO.

AMENDMENT

58

Applicable paragraphs from contract Statement of Work: 2D, 2E, 4F

STATEMENT OF WORK: (Continue on blank paper if additional space is required)

See Page 3.

PERFORMANCE SPECIFICATIONS:

See Page 3.

APPLICABLE DOCUMENTS:

See Page 3.

TASK END DATE: 3/31/00**MILESTONES/DELIVERABLES AND DATES:**

See Page 3

PERFORMANCE STANDARDS:**Schedule:** On-time delivery of flight WEA and acceptance data package**Technical:** ATR's acceptance of the above**FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):**

Jose M. Florez, building 11, room 224

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Contract NAS5-99124

Task #: **58****STATEMENT OF WORK:**

**Infrared Array Camera (IRAC) Instrument
Flight Warm Electronics Assembly (WEA) SOW
April 23, 1999**

1.0 SCOPE

The primary requirement of this task is the delivery of the IRAC:

1. Flight WEA.
2. Bench Test Equipment (BTE) Focal Plane Simulator PCB's
3. Bench Test Equipment Command and Telemetry Monitor assembly and test support
4. Bench Test Equipment Spacecraft Simulator Software Services

To fulfill this requirement the contractor shall provide onsite electrical assembly, circuit design, test, and integration services necessary to design, fabricate, assemble and deliver the following units:

- Backplane
- Command and Telemetry (C&T) Electronics
- Temperature Controller Electronics
- Calibration Control Electronics
- Bench Test Equipment (BTE) Spacecraft Simulator
- BTE Focal Plane Electronics (FPE) Simulator
- BTE Simulator Test Rack

1.1.0 REQUIREMENTS**1.1.1 DESIGN**

Electrical - The contractor shall provide electrical circuit design services for the Command and Telemetry (C&T) and Timing, Temperature Controller, the Calibration Electronics, the BTE Spacecraft Simulator, the BTE Focal Plane Electronics (FPE) Simulator and the BTE Simulator Test Rack. The contractor shall also provide electrical design services to the IRAC Electronics Product Team Lead for the remainder of the electronics development as needed.

The WEA electronics development will require close coordination and review between the GSFC Lead Engineers and the contractor representatives and designers in order to meet electrical, mechanical and thermal requirements and ensure a successful overall design.

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Task #: **58****1.2.0 QUANTITIES**

The contractor shall fabricate and assemble one (1) Flight Model WEA, one (1) Spare Flight Model WEA, one Bench Test Equipment (BTE) Spacecraft Simulator (software services only), one BTE Focal Plane Electronics (FPE) Simulator, and one BTE Command and Telemetry Simulator. In addition, the contractor shall assemble required harnesses for the BTE.

1.3.0 TESTING**1.3.1 Electrical Testing**

The contractor shall provide onsite assembly and electrical test services during the IRAC electronics development and test phases.

1.3.2 Environmental Testing

Environmental testing shall be performed by the GSFC.

1.4.0 APPLICABLE DOCUMENTS (Partial List)

- 1.4.1 GSFC Engineering Drawing Standards Manual, Doc. No. X673-64-IE
- 1.4.2 Applicable GSFC Approved Contractor Procedures
- 1.4.3 IRAC Approved Parts List
- 1.4.4 NASA Workmanship Standards NASA-STD 8739.3 thru NASA-STD 8739.7, NAS5300(3J-1) and NAS5300(3M).
- 1.4.5 System and subsystem requirements identified in the Critical Design Review (CDR) Package
- 1.4.6 IRAC and SIRTf Requirements Documents listed on IRAC WEB Page (<http://instra1.gsfc.nasa.gov:9001>)

1.5.0 STATUS REPORTING REQUIREMENTS

The contractor is required to conduct weekly meetings with the task Technical Monitor and all other relevant GSFC and subcontractor personnel. This meeting shall cover the status of all ongoing activities related to the task including schedule, cost and potential or unresolved problem areas.

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Task #: **58****1.6.0 QUALITY REQUIREMENTS****QA Requirement for flight hardware:**

Appropriate records must be kept at all times with all flight hardware. Work Order Assignments (WOA) shall be issued prior to the performance of flight related work. Documentation shall be kept in accordance with the Configuration Management (CM) system established by the IRAC Project. All fabricated hardware shall meet the requirements of the NASA workmanship Standards in Paragraph 1.4.4.

QA Requirement for non-flight hardware:

Government inspection is not required for non-flight hardware. Quality Assurance workmanship inspections of all non-flight hardware shall be performed by the contractor to best commercial practice.

1.7.0 GOVERNMENT FURNISHED EQUIPMENT (GFE)

1.7.1 Applicable documents as requested

1.7.2 Computers for BTE

1.7.3 Equipment, Material, Parts

The GSFC will provide Parts Lists of all parts to be provided.

1.8.0 DELIVERABLES**1.8.1 DESIGN DOCUMENTATION**

A complete design package shall be delivered with each item. The package shall consist of the following:

Disk copy of final board and piece part design drawings.

One hard copy of final board and piece part design drawings.

Note: Additional copies of drawings may be required, as needed, during the development of the packaging design.

Electronic and hard copy documentation of all analyses conducted and the results.

Final End Item Acceptance Data Package including the as-built Configuration List, the as built Materials and Processes List, the Test Procedure, the WOA Logs and a list of any open items.

Performance Assurance documentation as required.

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Task #: **58****1.8.2 HARDWARE**

The contractor shall deliver to the Task Monitor according to Section 1.9.0:

- One (1) Flight WEA
- One (1) Spare Flight WEA
- One (1) Bench Test Equipment (BTE) Focal Plane Simulator PCB's
- One (1) Bench Test Equipment Command and Telemetry Monitor assembly and test support
- One (1) Bench Test Equipment Spacecraft Simulator Software
- Supporting BTE Harness

Any spare residual unused hardware and equipment shall also be returned to the Task Monitor. All deliverables related to this task shall be made in person to the Task Monitor or his duly appointed representative. This shall be the method of delivery unless explicitly otherwise specified by the Task Monitor.

1.8.3 PARTS

All flight parts will be GFE.

1.9.0 DELIVERABLES SCHEDULE

Delivery dates are based on Project Schedule as of 4/23/99 QSS Task Plan, dated 9/15/99.

1.9.1 DESIGN DOCUMENTATION

A complete documentation package for each of the items identified in Section 1.9.2, as defined in Section 1.8.1, must be delivered to the Task Monitor at the time of delivery of the Flight WEA to the Project.

1.9.2 HARDWAREDeliverableBTE:

Spacecraft Flight Simulator Software	5/21/99 6/29/99
FPE Flight Simulator	5/21/99 6/18/99
C&T Monitor	5/21/99 2 Weeks After Delivery of Box to QSS
BTE Harness	5/21/99 9/30/99
IRAC Flight Harness	9/10/99

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Task #: **58**DeliverableFLIGHT WEA:

Backplane	8/20/99	10/29/99
Calibration Control 1	8/20/99	10/29/99
Calibration Control 2	8/20/99	10/29/99
Temperature Control 1	8/20/99	10/29/99
Temperature Control 2	8/20/99	10/29/99
C&T 1	8/20/99	10/29/99
C&T 1	8/20/99	10/29/99
DSP-1	8/20/99	10/29/99
DSP-2	8/20/99	10/29/99
DSP-3	8/20/99	10/29/99
DSP-4	8/20/99	10/29/99

DeliverableSPARE FLIGHT WEA:

Backplane	12/20/99	1/29/00
Calibration Control 1	12/20/99	1/29/00
Calibration Control 2	12/20/99	1/29/00
Temperature Control 1	12/20/99	1/29/00
Temperature Control 2	12/20/99	1/29/00
C&T 1	12/20/99	1/29/00
C&T 1	12/20/99	1/29/00
DSP-1	12/20/99	1/29/00
DSP-2	12/20/99	1/29/00
DSP-3	12/20/99	1/29/00
DSP-4	12/20/99	1/29/00